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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,328	02/20/2002	Susumu Matsui	56232.18 [5042]	9796

7590 10/16/2003
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EXAMINER

PHAM, HAI CHI

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,328

Applicant(s)

MATSUI ET AL.

Examiner

Hai C Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-6 and 8-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2, 5 and 6 is/are allowed.
- 6) ☒ Claim(s) 3 and 8-12 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

FINAL REJECTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 3 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kunii (U.S. 5,754,326).

Kunii discloses an optical deflection device comprising a rotary body formed of a magnet (rotor magnet 40), to which a polygon mirror (11) is fixed, a bearing (rotating shaft 20 having bearings 19) to which the rotary body is fixed, and a base table (99) having a coil (stator coil 31) facing the magnet, the coil capable of rotating the rotary body formed of the magnet, wherein the rotary body (40) is fixed on the bearing by adhesion (adhesive 97) (col. 5, lines 4-16) (col. 5, line 43 to col. 6, line 7). With regard to claim 8, Kunii further teaches the rotary body (40) having a cylindrical section (Fig. 2) being fitted externally with the bearing (20) and a groove (concentric grooves 41 and 43, Fig. 1, and/or the concentric recess provided on the cylindrical section of the rotor magnet 40 and located opposite to the groove 20a of the rotating shaft 20) provided around the cylindrical section to be concentric with the cylindrical section.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunii in view of Kuwayama et al. (U.S. 5,874,793).

Kunii discloses all the basic limitations of the claimed invention except for the bearing being a dynamic pressure bearing, and being made of ceramic.

Kuwayama et al. discloses a optical deflector comprising a rotor (21) in which a magnet 18 is integrally fitted, a stationary shaft (12) made of a ceramic material, the ceramic stationary shaft being formed with dynamic pressure generating grooves, the dynamic pressure bearing used in such high speed rotor assembly would provide a stable accuracy of rotation for an extended period of time for the rotating polygon mirror.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the ball bearing in the device of Kunii with the dynamic pressure bearing as taught by Kuwayama et al. The motivation for doing so would have been to provide the high speed rotor assembly with a stable accuracy of rotation for an extended period of time as suggested by Kuwayama et al. at col. 1, lines 14-23).

Allowable Subject Matter

5. Claims 2 and 5-6 are allowed.
6. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is an examiner's statement of reasons for allowance: the primary reason for the indication of the allowability of the claimed invention is the inclusion of the limitations, in the combination as currently claimed in claims 1 and 5-6, that the claimed optical deflection device includes a rotary body formed of a magnet to which a polygon mirror is fixed, a bearing to which a rotary body is fixed, a base table having a coil facing the magnet, the coil capable of rotating the rotary body formed of the magnet, wherein the rotary body is made of plastic magnet, which is integrally fixed on the bearing by an injection molding process, and which are not found taught or fairly suggested by the prior arts made of record, considered alone or in combination.

The primary reason for the indication of the allowability of the claimed invention is the inclusion of the limitation "the rotary body is provided with a slit or recessed stripe extending in an axis direction of the bearing on a cylindrical section of the rotary body that comes in contact with the bearing", in the combination as currently claimed in claim 4, which is not found taught or fairly suggested by the prior arts made of record, considered alone or in combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

8. Applicant's arguments filed 07/30/03 have been fully considered but they are not persuasive.

The interpretation given to claim 3 by Applicants does not reflect the actual claimed limitations of claim 3, e.g., "bonding the polygon mirror 4 with the rotor 3 using an adhesive", and the passage of the specification pointed by the Applicants, e.g., page 12, lines 3-8, does not illustrate what is being claimed in claim 3. In fact, the following limitation "the rotary body is fixed on the bearing by either one of force-fitting, shrinkage fitting and adhesion" recited in claim 3 indicates that the rotor 3 is bonded to the bearing 24 using an adhesive. Such limitation is disclosed by Kunii in which the rotary body (40) is fixed on the bearing (20) by adhesion (adhesive 97) (see above rejection in paragraph 2 of the present Office action).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (703) 308-1281. The examiner can normally be reached on T-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin R. Fuller can be reached on (703) 308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722, (703) 308-7724, (703) 308-7382, (703) 305-3431, (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



HAI PHAM
PRIMARY EXAMINER

October 14, 2003